$CO_2$ recovery device **20** even when the high efficiency recovery condition is satisfied, if the user input part (that is, HMI **42**) receives this operation prohibit instruction.

Second Embodiment

**[0122]** Next, a control device of a vehicle according to the second embodiment will be explained. The configuration of the control device of a vehicle according to the second embodiment is basically similar to the configuration of the control device of a vehicle according to the first embodiment. Below, the parts different from the configuration of the control device of a vehicle according to first embodiment will be focused on in the explanation.

**[0123]** Configuration of Vehicle

**[0124]** FIG. **4** is a view schematically slowing the configuration of the vehicle **1** according to the present embodiment. As shown in FIG. **4**, in the vehicle **1** according to the second embodiment, as the source of power driving the vehicle **1**, the motor **17** is used instead of the internal combustion engine **10** in the first embodiment. The motor **17** uses the electric power of the battery to generate drive force for driving the vehicle **1**.

**[0125]** As shown in FIG. **4**, in the present embodiment, the $CO_2$ recovery device **20** is configured so as to recover the $CO_2$ in the air outside of the vehicle. The $CO_2$ recovery device **20** includes a $CO_2$ recovery part **21**, suction pump **22**, and outside connection passage **26**. The $CO_2$ recovery device **20** communicates with the outside of the vehicle through the outside connection passage **26**.

**[0126]** The outside connection passage **26** extends in the front-back direction of the vehicle **1** beneath the underbody of the vehicle **1**. In particular, in the present embodiment, the inlet of the outside connection passage **26** is arranged in the motor compartment. Further, the $CO_2$ recovery part **21** is provided at the outside connection passage **26**. Therefore, the outside connection passage **26** is configured so as to be able to make the air at the outside of the vehicle **1** flow from the outside of the vehicle **1** into the $CO_2$ recovery part **21**. Furthermore, the outside connection passage **26** is configured to discharge the air after recovery of $CO_2$ by the $CO_2$ recovery part **21** to the outside of the vehicle. Note that, if possible to make the air around the vehicle **1** flow through the outside connection passage **26** into the $CO_2$ recovery part **21**, the outside connection passage **26** may be configured in any way. Therefore, for example, the inlet of the outside connection passage **26** may be arranged at a side surface of the vehicle **1** (surface of vehicle **1** extending in front-back direction).

**[0127]** The suction pump **22** is provided at the outside connection passage **26** communicated with the $CO_2$ recovery part **21**. In the present embodiment, the suction pump **22** is arranged at the downstream side of the $CO_2$ recovery part **21** in the direction of flow of gas at the outside connection passage **26**. The suction pump **22** is configured to use the electric power of the battery **50** to suck in gas from the outside of the vehicle and forcibly send it to the $CO_2$ recovery part **21**.

**[0128]** As shown in FIG. **4**, the $CO_2$ recovery device **20** is provided with a $CO_2$ concentration sensor **27** detecting the concentration of $CO_2$ in the air around the vehicle **1**. In the present embodiment, the $CO_2$ concentration sensor **27** is arranged near the inlet of the outside connection passage **26**. The $CO_2$ concentration sensor **27** is connected to the ECU **31** and outputs its measurement value to the ECU **31**. Note that, the $CO_2$ concentration sensor **27** may also be arranged at a location other than the outside connection passage **26** so long as able to detect the concentration of $CO_2$ in the air around the vehicle **1**.

**[0129]** Note that, in the present embodiment, the $CO_2$ recovery device **20** does not have a cooling part such as used in the first embodiment. This is because in the present embodiment, air at the outside of the vehicle flows into the $CO_2$ recovery part **21**, and the air at the outside of the vehicle basically does not become high enough in temperature so as to cause desorption of $CO_2$ at the $CO_2$ recovery part **21**.

**[0130]** Summary of Method of Recovery of $CO_2$

**[0131]** Next, the method of recovery of $CO_2$ according to the present embodiment will be explained. In the present embodiment, in the $CO_2$ recovery device **20**, if the $CO_2$ recovery device **20** is operated (that is, the suction pump **22** is operated), air outside the vehicle flows through the outside connection passage **26**. Note that, even if the suction pump **22** is not being operated, if the vehicle **1** is being driven, air at the outside of the vehicle flows through the outside connection passage **26** due to the running wind. If air outside of the vehicle flows through the outside connection passage **26** and into the $CO_2$ recovery part **21**, the $CO_2$ adsorbent of the $CO_2$ recovery part **21** and the inflowing air contact each other. As a result, the $CO_2$ recovery part **21** adsorbs and removes the $CO_2$ from the air whereby the $CO_2$ in the air is recovered by the $CO_2$ recovery part **21**. The air after the $CO_2$ is recovered by the $CO_2$ recovery part **21** flows through the outside connection passage **26** and is discharged to the outside of the vehicle.

**[0132]** Control of Operation of $CO_2$ Recovery Device

**[0133]** In this regard, in order to operate the suction pump **22**, that is, to operate the $CO_2$ recovery device **20**, electric power of the battery **50** is used. For this reason, if the $CO_2$ recovery device **20** is operated when the concentration of $CO_2$ in the air around the vehicle **1** is low, that is, when the efficiency of recovery of $CO_2$ at the $CO_2$ recovery device **20** is low, a sufficient amount of recovery of $CO_2$ is not obtained with respect to the electric power of the battery **50** consumed by operation of the $CO_2$ recovery device **20**.

**[0134]** Therefore, in the present embodiment as well, the control device **30** permits operation of the $CO_2$ recovery device **20** when a high efficiency recovery condition, at which the efficiency of recovery of $CO_2$ showing a ratio of the amount of recovery of $CO_2$ at the $CO_2$ recovery device **20** with respect to the electric power consumed by the battery **50** is equal to or greater than a preset predetermined efficiency,¥ is satisfied, and prohibits operation of the $CO_2$ recovery device **20** when the high efficiency recovery condition is not satisfied. As a result, in the present embodiment as well, a $CO_2$ recovery device with a larger amount of recovery of $CO_2$ with respect to the electric power of the battery consumed by the $CO_2$ recovery device (that is, with a higher efficiency of recovery of $CO_2$) is provided.

**[0135]** In the present embodiment, the high efficiency recovery condition is that, for example, the concentration of $CO_2$ in the air around the vehicle **1** is equal to or greater than a predetermined threshold value. Therefore, for example, if the concentration of $CO_2$ in the air around the vehicle **1** is equal to or greater than a predetermined threshold value, it is judged that the high efficiency recovery condition has been satisfied, while if the concentration of $CO_2$ in the air